

NOTES ON MIOCENE AMBER COLLEMBOLA FROM CHIAPAS

BY

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SEVENTY SPECIMENS of collembola in Miocene amber from Chiapas, Mexico, were sent to me for identification by Dr. Paul Hurd of the University of California. Of these only thirty-four were identifiable as to genus. In so far as these could be placed in species they represented extant neotropical or subtropical forms. Most of the specimens were of the subfamily Entomobryinae which is most abundant in subtropical areas. Seven forms were identifiable as to species with varying degrees of doubt:

1. *Entomobrya decora* ?
2. *E. trifasciata* ?
3. *E. litigiosa* ?
4. *Lepidocyrtinus frater* ?
5. *Lepidocyrtus geayi* c.f.
6. *Salina tristani* ?
7. *Isotomurus retardatus* .

Information about the localities represented by the specimens was supplied by J. Wyatt Durham.

Localities B-7046 and B-7053 represent amber purchased at Tapilula, Chiapas (about 35 kms. west of Simojovel). On the basis of subsequent enquiries, the amber probably came from Palo Blanco Mine on Finca Palo Blanco (about 22 kms. north-east of Tapilula), and is of latest Oligocene or earliest Miocene age.

Locality B-4115 includes amber purchased at Finca San Jose Buenavista. Presumably from Las Cruces slide (about 23 kms. East-southeast of Simojovel and 6.8 kms. southeast of the headquarters of Rancho Santo Domingo). Latest Oligocene or earliest Miocene.

Locality B-7045. Simojovel region, Chiapas, Mexico. From big landslide (El Portugal landslide) on north side of Rio Ancora, between Santa Catarina and El Portugal. Latest Oligocene or earliest Miocene.

Locality B-7049 represents amber purchased at Bachajon (about 40 kms. east of Simojovel), Chiapas, Mexico. Precise locality unknown. Probably of mid-Tertiary age.

Locality B-7054. Amber purchased at Jolpabuchil (about 30 kms. northeast of Simojovel and about 4 kms. southwest of Petalcingo), Chiapas, Mexico. From shale outcrops along stream, upstream from main ranchhouse about ½ km. Probably earliest Miocene.

Localities B-4112 and B-7461. Simojovel region, Chiapas, Mexico. From fossiliferous sandstone outcrops near top of west facing cliff at Pa-Buchil (= Rancho Alegre), about 3 kms. N 70° west of Simojovel. Latest Oligocene or earliest Miocene.

Localities B-7048 and B-7051 represent purchased material, precise locality unknown, but stated to be from "Vega de la Campana, Rio San Pedro." Presumably refers to area in Rio San Pedro Valley about 7 kms. north of Simojovel. Presumably latest Oligocene or earliest Miocene.

Localities B-6899, B-7047, B-7043, and B-4122 represent amber purchased at Simojovel, precise locality unknown but presumably from one of the well-known amber localities of the Simojovel region. Presumably latest Oligocene or earliest Miocene.

Locality B-7044 represents amber purchased at Quechula on the Grijalva River (about 45 kms. northwest of Tuxtla Gutierrez). Stated to come from right bank of Grijalva River between lower end of big canyon and junction with "La Vena River." Presumably of mid-Tertiary age.

Species 2, 3, 5, and 6 are presently known from Central America and probably occur in Chiapas. Species 1 and 4 are only known from temperate and subtropical regions of South America; however, our knowledge of the collembolan fauna of Central America is so incomplete that it is impossible to state that they do not occur there. Species 7 is known only from the United States, but it is common in the southwest and probably occurs in Mexico. A listing of the specimens of each group and notes about them is given below.

Family ENTOMOBRYIDAE
Subfamily ENTOMOBRYINAE
Entomobrya Rondani

This was the most abundant genus in the samples. Many of the specimens were not identifiable beyond genus at the present time. In a number of cases the chaetotaxy was well preserved and when this characteristic is analyzed in the genus it may be possible to make closer identifications.

Entomobrya sp.

U.C. Mus. Paleo. Hypotype Nos.: (Specimens marked with asterisk had clear chaetotaxy.) 13546, loc. B-4115; 13547, loc. B-6899; 13548, loc. B-7053; 13549, loc. B-6899; 13550, loc. B-7047; 13551, loc. B-7046; 13552, loc. B-7046; 13553, loc. B-7045; *13508, loc. B-4112; *13509, loc. B-7043; *13046, loc. B-7461; *13510, loc. B-6899; *13511, loc. B-7048; *13512, loc. B-7047.

Entomobrya decora Nicolet ?

U.C. Mus. Paleo. Hypotype Nos.: 13502, loc. B-7045; 13503, loc. B-7047.

The specimens did not show clear color patterns but the traces of color as well as general body form, claw structure, and head setae were similar to this species. This species is known only from South America.

Entomobrya trifasciata Handschin ?

U.C. Mus. Paleo. Hypotype Nos.: 13504, loc. B-7047; 13505, loc. B-7049.

The first specimen (with visible unguis) listed above shows both the typical pattern, apical bulb of the antennae and empodial appendage. The second specimen shows only the typical body shape, mucro, and antennae. The species is common in Central America.

Entomobrya litigiosa Denis ?

U.C. Mus. Paleo. Hypotype Nos.: 13506, loc. B-7043; 13507, loc. B-7045.

Neither specimen has any visible color pattern. The first specimen shows the claw, mucro and general body shape of this species while the labral papillae and

body shape can be seen on the second specimen. The species is common in Central America.

Genus *Drepanura*

Only a single specimen (U.C. Mus. Paleo. Hypotype No. 13513, loc. B-7045) of this genus was seen. No specific identification was possible.

Genus *Lepidocyrtinus*

Many of the specimens were well preserved; however, no certain identifications can be made until the chaetotaxy of the neotropical members of this genus has been analyzed. On a basis of the pattern which was visible on two specimens and the general body features a very tentative identification can be made. (See pl. 2,B, U.C. Mus. Paleo. Hypotype No. 13514.)

Lepidocyrtinus frater Bonet ?

(Pl. 2,B)

U.C. Mus. Paleo. Hypotype Nos.: 13555, loc. B-7053; 13556, loc. B-4122; 13514, loc. B-7045; 12635, loc. Chiapas, Mexico [exact locality unknown].

This species has been recorded from temperate and subtropical South America.

Genus *Lepidocyrtus*

Several specimens were seen but only one could be identified to species.

Lepidocyrtus sp.

U.C. Mus. Paleo. Hypotype Nos.: 13515, loc. B-7048; 13554, loc. B-7044.

Lepidocyrtus cf. *L. geayi* Denis

U.C. Mus. Paleo. Hypotype No.: 13516, loc. B-7048.

This species is known from Costa Rica.

Subfamily PARONELLINAE

Two forms of this typically tropical subfamily were found.

Salina tristani Denis ?

(Figs. 1 and 2)

U.C. Mus. Paleo. Hypotype Nos.: 13517, loc. B-7051; 13518, loc. B-7053.

The two specimens of this genus were well preserved. It was possible to see the mucro (fig. 1) and analyze parts of the chaetotaxy on one specimen (fig. 2). On a basis of the features described by Denis the species at hand appears very similar to *S. tristani*, however there are some minor differences in the mucro and basal scale. Certain identification will have to await a study of the chaetotaxy of the species. The species was described from Costa Rica.

Paronella ? sp.

U.C. Mus. Paleo. Hypotype Nos.: 13519, loc. B-7048; 13520, B-4112.

Two scaled paronellids were seen. In general features they resemble the genus *Paronella* but were too incomplete for certainty even at the generic level.



Fig. 1. *Salina tristani* Denis ? U.C. Mus. Paleo. Hypotype No. 13518. Mucro and basal scale. Actual length mucro .04 mm.

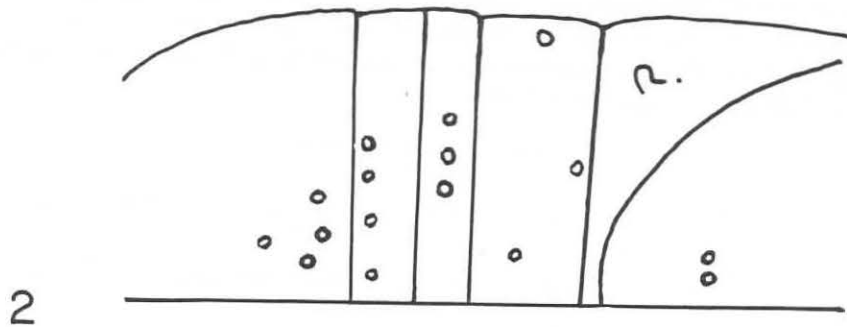


Fig. 2. Same specimen. Diagrammatic approximation of chaetotaxy on the posterior margin of thoracic segment 2, all of th. 3, abd. 1, 2, and 3, and the anterior margin of abd. 4.

Family ISOTOMIDAE

Isotomina sp.

U.C. Mus. Paleo. Hypotype Nos.: 13521, loc. B-7054, 13522, loc. B-7054.

Two heavily pigmented species of this genus were seen. Neither could be identified to species.

Isotomurus retardatus Folsom

U.C. Mus. Paleo. Hypotype No.: 13054, loc. B-7461.

This well-preserved specimen (pl. 2,A) can be clearly identified as this species in spite of the absence of a visible mucro. The species is known from Western North America.